

## REMARKS

### **Drawings**

Figure one of the drawings stands objected to because "the shading in figure 1 is too dark to make out the arrows 2 & 5, the cutout, and the opening." (office action page 2, paragraph 1). Please note that figure 1 has been corrected appropriately so that each arrow and drawing portion may be easily distinguished. Please see "drawing amendments."

### **Claim Objections**

Claim 1 stands objected to for failing to provide antecedent basis for "the support system," "the pores," and "the materials." (office action page 2, paragraph 2). Please note that claim 1 has been amended to provide antecedent basis, in claim 1, for "the support system;" "the pores" and "the materials" have been deleted from claim 1. Please see "claim amendments."

Claim 1 further stands objected to "as it is unclear what Applicant is attempting to encompass with the limitations "or other structure," "or otherwise designed or configured," "or other means," "the pores and/or vacant regions," and "optionally" as recited in claim 1. Please note that "or other structure" has been amended to read "or similar support structure;" "or otherwise designed" has been deleted from the claim; "or other means" has been amended to read "a passageway means;" "the pores" has been deleted from the claim; and "optionally" has been deleted from the claim.

Finally, claim 1 stands objected to for failing to provide basis in the specification for the ingress and egress of gas into or out of the pores and vacant regions within the materials encased by the bladder. (office action page 2, paragraph 2). Please note that “pores and vacant regions” has been amended to read “vacant regions.” Also, Applicant respectfully points Examiner to page 15, lines 2-5 (Summary of Invention, 2<sup>nd</sup> paragraph), which reads “...if the membrane is able to control the amount of air or fluid surrounding the space between the bladder and the interstices of the foam, the fluid pressure may be varied to change the characteristics of the foam itself.” Applicant believes the phrasing is sufficiently clear with regard to the air flow between the membrane and foam, and within the vacant regions of the foam. Also, Applicant directs Examiner to page 19, lines 14-17 (Detailed Description, 7<sup>th</sup> paragraph), which reads “within the cells of the foam the variation of pressure changes the spring constant of the foam. At the same time, in the cut-out section [or vacant region], the pressure of the fluid directly determines the local force distribution...” Finally, Applicant directs Examiner to page 20, lines 23-25 (Detailed Description, 11<sup>th</sup> paragraph), which reads “the foam insert is placed in a close-fitting bladder or membrane containing a passageway for fair or other fluid to enter or leave.” In view of the passages above, air pressure may be varied in both the area between the foam [support structure] and membrane, and within the vacant regions within the foam [support structure]. This air pressure variation is brought about simply by the ingress and egress of air between these regions.

Claim 2 stands objected to for failing to provide antecedent basis for "the encased material," "the support material," "the material," "the opening, and "the center like." (office action page 2, paragraph 3). Please note that "structure," for which antecedent basis is provided, has been substituted for "material;" in addition, "the opening" and "the center like" have been deleted from the claim. Please see "claim amendments."

Claims 6-7, 10, 14, 16-18, and 22-23 stand objected to for failing to provide antecedent basis for "the encased material." (office action page 2, paragraph 4). Please note that the "support structure," for which there is antecedent basis, has been substituted for "encased material" in the above referenced claims. Please see "claim amendments."

Claim 11 stands objected to for failing to provide antecedent basis for "the surrounding membrane." Please note that "surrounding" has been amended to read "encasing," for which antecedent basis is provided.

Claim 12 stands objected to for failing to provide antecedent basis for "the support system," "the pores," and "the materials." (office action page 3, paragraph 1). Please note that claim 12 has been amended to provide antecedent basis, in claim 12, for "the support system;" "the pores," and "the materials" have been deleted from claim 12. Please see "claim amendments."

Claim 12 further stands objected to "as it is unclear what Applicant is attempting to encompass with the limitations "or other structure," "or otherwise designed or configured," "or other means," "the pores and/or vacant regions," and "optionally" as

recited in claim 1. Please note that "or other structure" has been amended to read "or similar support structure;" "or otherwise designed" has been deleted from the claim; "or other means" has been has been amended to read "a passageway means;" "the pores and" has been deleted from the claim; and "optionally" has deleted from the claim and the following verbiage has been included as a dependent claim.

Finally, claim 12 stands objected to for failing to provide basis in the specification for the ingress and egress of gas into or out of the pores and vacant regions within the materials encased by the bladder. (office action page 2, paragraph 2). Please note that "pores and vacant regions" has been amended to read "vacant regions." Also, Applicant respectfully points Examiner to page 15, lines 2-5 (Summary of Invention, 2<sup>nd</sup> paragraph), which reads "...if the membrane is able to control the amount of air or fluid surrounding the space between the bladder and the interstices of the foam, the fluid pressure may be varied to change the characteristics of the foam itself." Applicant believes the phrasing is sufficiently clear with regard to the air flow between the membrane and foam, and within the vacant regions of the foam. Also, Applicant directs Examiner to page 19, lines 14-17 (Detailed Description, 7<sup>th</sup> paragraph), which reads "within the cells of the foam the variation of pressure changes the spring constant of the foam. At the same time, in the cut-out section [or vacant region], the pressure of the fluid directly determines the local force distribution..." Finally, Applicant directs Examiner to page 20, lines 23-25 (Detailed Description, 11<sup>th</sup> paragraph), which reads "the foam insert is placed in a close-fitting bladder or membrane containing a passageway for fair or other fluid to enter or leave." In view of

the passages above, air pressure may be varied in both the area between the foam [support structure] and membrane, and within the vacant regions within the foam [support structure]. This air pressure variation is brought about simply by the ingress and egress of air between these regions.

Claim 13 stands objected to for failing to provide antecedent basis for "other structure," "the material, and "said material." (office action page 3, paragraph 2). Please note that "other structure" has been deleted, and "support structure," for which antecedent basis is provided, has been substituted for "material." Please see "claim amendments."

Claim 15 stands objected to for failing to provide antecedent basis for "encased material," "the hole," and the "remaining material." (Office action page 3, paragraph 3). Please note that "support structure," for which antecedent basis is provided, has been substituted for "encased material" and "the hole" and "remaining material" have been deleted. Please see "claim amendments."

#### **Claim Rejection; 35 U.S.C. 112(2)**

Claims 1 and 12 are rejected as "it is unclear how the support as disclosed in the specification reduces cross contamination between a patient and the surroundings, and reduces the incidence of dust mites. Throughout the specification, Applicant makes reference to an inner foam or support structure sealed from the surrounding environment by a membrane (page 19, lines 12-13; page 20, lines 23-25; page 21, lines 8-11). Separate embodiments call for distinct sections of inner foam; however, all such embodiments containing a non-permeable membrane isolate the inner structure from

the surrounding environment, thereby providing protection from both dust mites and cross contamination as the inner support structure is used for different patients. Specifically, Applicant makes reference to membrane sealing means, such as Ziploc-type seal, to ensure the inner structure is isolated, and protected, from the surrounding environment.

Applicant further provides for embodiments of the present system whereby a semi-permeable bladder surrounds the inner support structure (page 21, lines 11-14). In such an embodiment, Applicant calls for extra-preventive means, such as appropriate filtering (page 21, lines 16-21), with regard to cross contamination, as the semi-permeable membrane is not as effective in protecting the inner support from the surrounding environment.

**Claim Rejections; 35 U.S.C. 102(b)**

Claims 13, 17, 20, and 22 currently stand rejected under 35 U.S.C. 102(b) as being anticipated by Kamen et al (6,092,249). Applicant hereby withdraws claims 13, 17, and 20 from current consideration. Claims 14-16, 18-19, 21, and 23 have been written in independent form.

**Claim Rejections; 35 U.S.C. 103(a)**

Claims 1-2, 8, and 11-12 currently stand rejected under 35 U.S.C. 103(a) as being unpatentable over Culp (5,675,855) in view of Gaiser (3,798, 686) and further in view of Rogers (5,048,137).

Specifically, Examiner states that it would have been obvious to one of ordinary skill in the art to employ a pressure pump with the cushion of Culp as taught by Gaiser

in order to adjust the support to individual needs, and that it would have been obvious to one of ordinary skill in the art to configure the cut-out in the support of Culp as taught by Rogers in order to reduce the shear stress imposed on the anatomy. However, applicant respectfully submits that the present invention is not obvious in view of the cited references.

Applicant respectfully submits that Culp and Rogers are not proper references in that Culp, as modified by Rogers, renders Culp unsatisfactory for its intended purpose. *See MPEP 2143.01*. Also, said references should not be combined as they teach away from their combination. *See MPEP 2141.02*. It is improper to combine references where the references teach away from their combination. *In re Grasselli*, 773 F.2d 731, 743 (Fed. Cir. 1983). The invention of Culp, in the most preferred form, is intended for camping and exercise applications; the foam panel has a firmness on the order of 30 ILD. (Culp col. 4, lines 49-51). Further, the apertures within the foam panel are of a radius of only .75 inches. (Culp col. 4, lines 65-67). Moreover, as mentioned above, the apertures, or cut-outs in the foam panel of Culp contain weld points where the top and bottom portions of the surrounding membrane are coupled. This direct coupling between the top and bottom portions of the bladder is meant to prevent pillowling of the air chamber when receiving a load. *See Culp*, col. 5, lines 3-5.

However, the inclusion of conical shaped apertures would destroy the operation of the Culp mattress in more than one way. First and foremost, it is easily seen that fitting the weld point through the asymmetric conical aperture would be all but impossible, and would interfere with the placement of the welding points within the apertures

themselves. Moreover, the use of conical shaped apertures in conjunction with said weld points would make for an awkward structure with limited stability; this instability would lead to the “pillowing” that is specifically meant to be avoided by the Culp invention.

Proper inflation the Culp mattress depends on symmetrical placement of the weld point about the foam panel apertures. If asymmetrical shaped cut outs were placed within the apertures, the weld points would not be equidistant from both the top and bottom portions of the surrounding membrane. Again, such configuration would cause both instability within the structure and lead to “pillowing,” which is specifically meant to be avoided by the Culp invention.

The weld points of the Culp invention, which couple the top and bottom membrane portions, necessarily demand that a substantial amount of the surrounding membrane be contained within the foam cut outs. As such, the substitution of conical cut outs would cause unstable “bunches” of membrane material within the cut outs. Such configuration would also inhibit quick deflation and conversion of the Culp mattress to a compact, transportable form- which are two primary operations of the Culp invention.

In view of the assertion that the combination of Culp and Rogers is inappropriate, and the fact that Culp and Gaiser do not meet the limitations of Applicant’s invention, Applicant respectfully submits that Claims 1-2, 8, and 11-12 are ready for allowance, and request that the rejection under 35 U.S.C. 103(a) be withdrawn.



### DRAWING AMENDMENTS

Figure one of the drawings stands objected to because "the shading in figure 1 is too dark to make out the arrows 2 & 5, the cutout, and the opening." (office action page 2, paragraph 1). Please note that figure 1 has been corrected appropriately so that each arrow and drawing portion may be easily distinguished.